

Notice of Allowability

Application No.

10/622,909

Examiner

Glenn Zimmerman

Applicant(s)

PIEHL, ARTHUR

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to June 1, 2004.
2. ☒ The allowed claim(s) is/are 7-17.
3. ☒ The drawings filed on 21 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 04/19/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group II claims 7-17 in the reply filed on June 1, 2004 is acknowledged.

This application is in condition for allowance except for the presence of claims 1-6 and 18-20 to inventions non-elected without traverse. Accordingly, claims 1-6 and 18-20 have been cancelled.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Please cancel the claims 1-6 and 18-20, as these claims are non-elected.

On page 1 line 9 of the specification, please insert - - This application is a Divisional of U.S. application Ser. No. 09/972,430 filed on October 5, 2001, now issued as U.S. Pat No. 6,628,052. - -.

The applicant's response is not deemed necessary.

Allowable Subject Matter

Claims 7-17 are allowed.

Regarding claim 7, the following is an examiner's statement of reasons for allowance: The prior art of record neither shows nor suggests a method for microfabricating an enhanced electron field emission Spindt tip including the combination of all the limitations as set forth in claim , and specifically creating a number of dielectric-bilayer/metal layers on top of an interconnect and substrate; isotropically etching the number dielectric-bilayer/metal layers to create a cylindrical well could not be found elsewhere in prior art.

Regarding claims 8-17, claims 8-17 are allowed for the reasons given in claim 7, because of their dependency status on claim 7.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takada U.S. Patent 5,739,628 discloses a Field Emission Type Cold Cathode Device with Conical Emitter Electrode and Method for Fabricating the Same. Stengl et al. U.S. Patent 5,188,977 discloses a Method For Manufacturing An Electrically Conductive Tip Composed of a Doped Semiconductor Material. Huang et al. U.S. Patent 6,514,422 discloses a Simplified Etching Technique for Producing Multiple Undercut Profiles. Epsztein U.S. Patent 5,070,282 discloses an Electron Source of the Field Emission Type. Jaskie et al. U.S. Patent 6,364,730 discloses a Method for Fabricating a Field Emission Device and Method For The Operation Thereof.

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Seko U.S. Patent 5,889,359 discloses a Field-Emission Type Cold Cathode with Enhanced Electron Beam Axis Symmetry. Tomihari et. Al. U.S. Patent 6,091,188 discloses a Field Emission Cold Cathode and Method of Fabricating the Same. Schulte et al. U.S. Patent 6,448,100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Zimmerman whose telephone number is (571) 272-2466. The examiner can normally be reached on M-W 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Glenn Zimmerman


Vip Patel
Primary Examiner
AU 2879